

PROGRESSIVE FARMER

THE INDUSTRIAL AND EDUCATIONAL INTERESTS OF OUR PEOPLE PARAMOUNT TO ALL OTHER CONSIDERATIONS OF STATE POLICY.

Vol. 16.

Raleigh, N. C., December 17, 1901.

No. 45

Agriculture.

SOIL AND SOIL TREATMENT

Correspondence of The Progressive Farmer.
The earth was made for the purpose of growing plants. It is well and wisely made. The soil is perfectly adapted to grow vegetation. It neither grows nor wears out in the work.

Plants were created to grow in the soil. So perfect is their adaptation to this business that instead of exhausting the soil they leave it better by growing in it. The larger the growth upon any given area this year, the larger still is the possible growth next year upon the same soil. Such is the mutual relationship between the powers of the soil and the work of the plants in growing, dying and decaying, that it is possible to grow crops continuously upon the same soil, with ever-increasing capacity for growing more and larger crops, on the part of the soil.

HOW THEN DO SOILS GET POOR?
It is the result of bad management, and not of the demands made upon the soil by the growing crops. Vegetation upon an average is seventy-five per cent. water, twenty-two per cent. air, and only three per cent. soil.

Good farming returns to the soil so much of this organized water and air, that it more than compensates for the three per cent. taken from the soil. Hence it is a mistake to say that the soil is exhausted or made poorer by the small part it furnishes the crop. Then you ask why do we find fields and farms, after years of cultivation, become poor or non-productive? The causes are many. Mainly bad management in plowing when the soil is wet and in plowing so shallow that the soluble plant food is washed away or leached out by the rain water. Continuous clean culture and burning the waste vegetable matter helps to hasten this condition.

MECHANICAL CONDITION OF THE SOIL.
The power of any soil to produce depends largely upon the mechanical condition of the soil. Hard, compact soils will not turn loose their elements of plant food in sufficient quantities to make large crops. A good soil must be a finely pulverized soil.

Shallow soils with hardpan under them will not yield large crops. They do not permit sufficient root growth. The tender rootlets cannot pierce this hardpan in search for food. Again they do not furnish sufficient water for rapid and full growth. Plants require very large supplies of water to furnish their food in solution and keep up healthy circulation. About three hundred pounds of water pass through most plants to leave one pound of dry matter. This would require about two thousand pounds to pass through a corn stalk to make one pound of corn, and the same to pass through a cotton stalk to leave one pound of lint.

The soil must be fine and deep and pulverized, not made into mud or mortar. It must also contain rotting vegetable matter, to furnish the humus, without which plants cannot grow. Soils in this condition will be rich. It will produce large crops. It matters not if it be red or gray, sandy or clay.

MORE ATTENTION TO SOIL MANAGEMENT, LESS TO FERTILIZERS.

So much of our land has been put in bad mechanical condition that but few farms will produce large crops. Hence the necessity of using commercial fertilizers. These contain phosphoric acid and potash readily soluble and available. They greatly increase the yield because of this fact. They feed the growing plant. The more vigorous the plant the more they help. Just as it pays to give extra feed to a thriving pig or beef. So we see that even the helpfulness of fertilizer is dependent upon the mechanical texture of the soil.

The farmers' constant study should be "How can I improve the mechanical condition of my soil?" Upon his intelligence in answering this question will depend largely his

success as a farmer. Your bottom land is richer than your upland because its mechanical condition is better. Your garden is richer than your farm because its mechanical condition is better.

These are not new discoveries, but so few farmers are acting upon them, that they need to be restated. Where the farmers use two, four and six horse plows, their soil is deep and fine and productive. Any soil may be made so by proper treatment.

Your soil is largely a thing of your own making or unmaking.

The success or failure of your crops for the next year will depend very largely upon the condition of your soil when you begin to plant.

JAMES B. HUNNICUT-Fulton Co., Ga.

HARRY FARMER'S TALES.

LV.

Correspondence of The Progressive Farmer.
A reader of THE PROGRESSIVE FARMER wishes us to give a talk on RAISING MULES AT HOME.

We suppose he refers to North Carolina, though THE PROGRESSIVE FARMER goes beyond this State in its circulation.

This is one part of farm work that we have had no experience in, for our youngest mule was three years old when we commenced with him. We began our work with mules at the early age of nine years and have worked all kinds, both native and Western. Some of our neighbors have raised mules and we have often discussed the matter with them. They were unanimous in one opinion, and that was that it does not cost any more to raise a mule than a calf so far as the feeding is concerned.

THE COST OF RAISING.

The figures are about these: Service fee, \$10; extra feed for mare, \$5; feed for colt, first year, \$10; second year, mostly pasture, \$15. Total, \$40. Ten years ago it was a common thing to see mule colts anywhere in this country. But the low price at which mules sold a few years ago stopped our farmers from raising mules and horses. We have seen mule colts sell for \$40 to \$50 at five months and never sold for less than \$75 to \$100 at two years. Mules raised here are

HARDIER THAN THE WESTERN

stock. We worked one once which was the toughest animal we ever tried. You had to put the plow in deep and push to get him to sweat, even in hot weather, while his mate, a large Western mule, would be worked down. Such a mule now would bring \$125 at two years.

The mules raised here were nearly all one color, red or dark bay. Occasionally one was seen of a mouse color with zebra stripes around the legs.

FEED FOR THE YOUNG MULES.

If we were going to raise mules, we would like to have a fairly large farm and have one and a half acres for each colt of Bermuda grass for a pasture. We would have the mares served in the fall so that we could work them through the crop season. If the colts came the last of September or early in October, they could be weaned early in the spring and the mares be hindered but little from work. It would be best to have some rye for the colts to graze on early in the spring before other grass was ready. There is no feed that will be better for young stock to give them bone and muscle than oats and cow pea hay.

To raise large mules, it will be necessary to have both the sire and dam of good size. Mules should be

BROKEN OR TRAINED TO WORK.

at one year old, not to do any hard work, but taught to drive and lead. The old-fashioned way of not training them to work until two or three years old was not calculated to make them do their best. Of course, it would not do to put them to work before they had developed sufficiently to work. Exercise in moderation would develop the muscle and make them strong.

We believe that raising mules would be one of the most profitable branches of farming open to us in North Carolina or anywhere in the South.

HARRY FARMER. Columbus Co., N. C.

NEWS OF THE FARMING WORLD.

Our Washington Correspondent Tells What Progress is Being Made in the Various Sections of the Country.

Correspondence of The Progressive Farmer.

Secretary Wilson will ask Congress for an appropriation for the Department of Agriculture, for the next fiscal year, of \$1,789,540, an increase of practically \$1,000,000 over the preceding year. When I asked the Secretary the necessity for so great an increase, he replied "The natural development of the Department's work. For instance, the Bureau of Forestry will require \$260,180, nearly double last year's appropriation, for work which is the natural outgrowth of that already begun; the new Bureau of Soils will require, to properly continue its work, \$173,000, an increase of \$82,000; the investigations of plant pathology have reached a point where an extra \$58,000 will be needed to carry on that work. In my judgment there are great possibilities for the silk industry in this country and I have included in my estimates \$10,000 for the purpose of inaugurating an investigation and experiments."

WHAT THE DEPARTMENT OF AGRICULTURE HAS DONE

When asked to briefly enumerate some of the benefits which the work of the Department had afforded to farmers, the Secretary cited, among things, the introduction of the naval orange, rust-proof oats, Fultz wheat and numerous plants and grasses; the salvation of the California orange industry from the ravage of the scale insect which had threatened its extermination; the introduction of the blastophaga, an insect which makes possible the growing of the Smyrna fig; the general destruction of insect pests, which the Secretary believes results in a saving of many million dollars annually; the discovery of remedies for fungous diseases of vines and plants; the eradication of pleuro pneumonia, a disease which had cost Great Britain a loss of over \$10,000,000; the inspections of meats intended for export, which has made possible an export trade of many million dollars in extent; the inspection of cattle vessels employed in the export trade, which has resulted in a decrease of the cost of insurance from \$8 to \$1 per head, a total saving to exporters of over \$2,225,000; the discovery and distribution of black-leg vaccine, which, it is estimated, has saved the cattle growers between \$5,000,000 and \$6,000,000 per year; the introduction of Smyrna tobacco in the Connecticut Valley, which will result in an increased profit to the growers of that section alone, of \$500,000 a year; the warnings of the Weather Bureau, which have saved lives, goods in transportation and growing crops to a value impossible to estimate; the work of the Department Statistician in furnishing honest estimates of the crops; and last, but not least, the establishment of the beet sugar industry on an extensive and substantial foundation. The Secretary spoke at considerable length but space necessitates the foregoing summary. The Secretary believes that greater actual profit accrues to the country from the monies disbursed by the Department of Agriculture than from those expended by any other department of the government.

TO CONQUER THE ROOT WORM ENEMY OF COW PEAS.

Prof. H. J. Weber, of the Bureau of Plant Industry, tells me that he has developed a variety of cow peas which, he is convinced, is proof against the attacks of the root worm, so destructive of this crop, particularly in the South. He says that the root-knot worm works on a variety of plants, including potatoes, tomatoes and peaches, and many of the peach growers have been afraid to avail themselves of the advantages to be derived from the nitrogen-gathering pea for fear of the introduction of the root-knot worm into the peach trees. The new variety, which is a selection from the Little Iron pea, will afford no harbor or sustenance to the pest and may, therefore be used in all localities without danger. He believes that this discovery will result in incal-

culable benefit to the Southern farmer.

GROWING EGYPTIAN COTTON.

Prof. Weber also reports gratifying success with his experimental plots of Egyptian cotton. He is conducting experiments in Mississippi, Florida, Georgia and Texas and, while he is not yet prepared to speak definitely, he believes that it will be found practical and possible to grow crops of from one half to three quarters of a bale of this cotton, per acre, and that a market ranging from six to ten cents per pound for ordinary cotton will pay from fifteen to twenty-two cents for the Egyptian variety.

A. B. MARRIOTT.

Washington, D. C.

WHAT KIND OF EDUCATION DOES THE FARMER NEED?

Correspondence of The Progressive Farmer.

The farmer needs a practical education in the arts and sciences that pertain to his industry. By practical education is meant the training of his hand to perform actual tasks with celerity and skill, as in a course in dairying, mechanic arts or stock judging. Here the student is set to individual tasks which he must perform with his own hands often enough to become fairly skilled in the construction of farm conveniences or in the art of butter and cheese making. Along with this practical education an effort should be made to inculcate habits of study, reading and research.

The effort of agricultural education should be directed to grounding the farmer's boy in the first principles of his business. These have been too long overlooked; the mind has been loaded with too much theory and not enough of practical, common sense ideas. In the vain search after something unique, the simple basic principles, the common truths of everyday life, the lessons that nature teaches have been too often forgotten. The farmer must be brought back to first principles and taught to work in harmony and in sympathy with nature.

The farmer needs to learn that science is simply facts systematically arranged; that science is a friend and not a foe; that the so-called scientist is not of necessity a man without practical knowledge. He does not appreciate that the simple truths which he knows and applies as a result of long years of experience in contact with nature are scientific truths. If he had a better idea of what science really is and the relation of its simple truths to his business, he would have less fear of it.

Finally, the farmer needs a business education. He needs to be taught that there are better ways of doing things; that there are cheaper ways of making butter and cheese; that there are cheaper ways of feeding cattle; that there are better ways of tilling the soil, and thus economizing labor and reducing the cost of crop production. All of these things are possible, and once the farmer appreciates that the agricultural college can do these things for him, the abyss now existing between them will quickly disappear.

The farmer needs a business agricultural education and not a commercial education. Why the farmer should send his boy to a school of shorthand and book keeping when he intends him to farm is hard to understand. Why should not the lawyer go to a theological school to learn his business; the doctor to a law school to learn his profession? These things would be regarded as absurd in the so-called professional avocations, though the farmer persists in educating his boy along lines which are of the least service in his life work. He prefers to let him delve away, gathering from hard knocks in the bitter school of experience the things which the agricultural college can put within his reach at but little cost in the shortest period of time and in the way in which he can utilize them to the greatest advantage.

ANDREW M. SOULE.

University of Tennessee, Knoxville.

A WYOMING MAN'S VIEWS ON SOME PHASES OF NORTH CAROLINA FARMING.

We clip the following article from the Chatham Record, and believe it will interest our readers, showing, as it does, "how others see us." Says Editor London:

About a month ago The Record stated that Mr. Harry G. Dahling, of Wyoming Territory, was here on a visit to his parents and that he liked our county so well that he had bought the farm of Mr. R. M. Burns, near here. On his return to Wyoming he published a very interesting account of his trip in his county paper, The Tribune, which we here with copy, so that our countymen may know how others see us and how our section impresses a stranger from far away Wyoming:

"During my trip I visited my parents in North Carolina and was very much pleased with the country, the climate and the people. A great part of the land is covered with timber and probably not one-third of the land is cleared and farmed. It seemed to me as if they had more land than farmers and what they needed more than anything else was good working farmers, and yet when I came to examine crops and prices of products, farming must pay better there than any place I know of. Taking the fact that I saw as heavy crops of corn on land that could be bought for \$10 per acre as I saw anywhere else on my trip on much higher priced land, and corn there was selling for 80 cents per bushel when I was there and has averaged over 50 cents a bushel during the last four years, it looked to me as if corn would pay. All the crops of corn I saw were not so good, however, but from what I noticed I concluded it was more the fault of the farmer than the farm. I visited one farm which was a few years ago considered one of the poorest in the country, and when a Northern farmer bought it a few years ago the natives predicted he would starve, yet he showed me a field from which he harvested 25 bushels of wheat per acre this year and soon as the wheat was out he planted the field in corn and the corn was a fair crop. I concluded if he was raising two such crops on the same land in one season he was not starving very fast. I was told of another farm which ten years ago would not yield over five bushels of corn per acre, but under its present management is averaging seventy-two bushels on over 100 acres.

"I found the conditions with other crops also very favorable. Wheat is a paying crop, cattle pay well and on account of the long pasture season can be kept with little expense. Butter sells for 20 cents the year round. I talked with two farmers who pay some attention to sheep raising. One of them said his sheep did not cost him over 15 cents per head a year to keep and the wool averages him \$2 per head. The other one told me that by careful feeding his early spring lambs weigh 50 pounds and that this year averaged him \$5 per head. Poultry also pays well. But what interested me was fruit. I saw a number of pear trees at different places that looked thrifty and bearing the finest fruit, while pears were selling at \$1 per bushel. I am satisfied from what I saw of apples that they can be successfully raised and yet I saw poor apples sell for 80 cents a bushel. The mistake is the people expect to raise their fruit from fence corner seedlings without care and attention. It was too late in the season to see peaches, but from what I was told, it is but little trouble to raise them. One farmer said he received \$1.40 a bushel for his crop.

"Every person I asked about Irish potatoes said it was no trouble to raise them and in the store where I inquired they sold for \$1 a bushel. It seems to me that every one expended their energy and expectations in raising a patch of cotton to the too much neglect of everything else and when cotton is 5 cents a pound they growl, and when it brings 10 cents they feel rich and happy.

"The climate is delightful and a farmer has a whole year to do his work. Droughts and destructive storms are unknown. I do not believe from my observations a healthier section can be found and I noticed more healthy and active old people than anywhere else. The people are intelligent, kind and sociable. Farms can be bought at from \$5 to \$10 per acre. I saw several farms offered at prices that I considered the buildings worth the price asked for the farm, and others where the timber if marketed would pay for the farm. Some of the land is poor, but is easily improved. If the land of Pennsylvania was treated the way some of the farmers of North Carolina treat theirs it would not produce anything.

"I enjoyed my visit very much and like the country."

ANOTHER VIEW OF TERRACING LAND

Correspondence of The Progressive Farmer.

I noticed in your paper of the 3rd a letter from Mr. O. W. Blacknall, of Vance county, telling how to terrace land. Now, let me say in justice to that writer that I am not acquainted with the lands of his county and that his plan may be all right for his section, but THE PROGRESSIVE FARMER is read all over the State, and I know that his plan of laying off terraces on a level will not do here.

Our sandy hills are the worst land in the State to wash, and many farms were ruined before we began terracing. Now we have some fine places without a break in them. We have found out by experience that we must give our terraces at least three inches fall in fifty feet and give the water an outlet at the end. I have seen the level plan tried on one field and the result was the water broke the upper terrace and rushed down the hill to find the next one full, and one after another was swept before the current till the field was ruined.

Terracing is the first and most important thing for a man to do if he wants to improve his land. There can be no permanent improvement with our lands here until it is done and done right. Go look near Gastonia at Craig & Wilson's fine lands and see what it has done for them, and ask them if they think it is safe to have a big head of water dammed up ready to tear loose at any minute and sweep everything before it.

A. F. COOLMAN.

Gaston Co., N. C.

NAMING THE FARM.

I believe it would be no mistake for every farmer in the country to have his name neatly painted over his barn door or on a board placed near his driveway. This should be in large, plain letters, so that when we are driving through the country we will know who lives there without inquiring. I know of some who are having their barns marked thus. Another good good idea is to have the places named. For instance, "The Elms," where a lot of noble elm trees adorn the grounds; "Cedar Hedge," or "The Cedars," from trees in the yard; "Hilltop" if the house stands on a hill, or "Pleasant Vale" if in a valley, etc. Let us hear from others on this subject. In our rambles we often pass by friends and acquaintances because we do not know where they live, when if their names were in plain sight over the door, we might be tempted to stop for a drink of buttermilk or a look around the place that would serve as a foundation for an item for the paper.—M. A. Preston, Charlotte, Mich.

One of the most prevalent errors among the average farmers is the neglect of making and preserving manure, and also its improper applications to the ground. Collect all the refuse material you can, use your chip dirt from the wood pile in absorbing liquids. Apply it to the flat lands at any time during winter. It can then be thrown on broadcast and plowed in as soon as the ground opens. The necessity of returning as much vegetable nutriment to the ground as has been taken off by the crop cannot be too strongly impressed upon the attention of farmers.—J. L. Miller, Murphysboro, Ill.